

**CLAIMS:** I claim:

1. A process for removing sulfur compounds and particulates from a flue gas comprising the steps of:
  - a) injecting a controlled mixture of a chemical reagent and water into the flue gas, and
  - b) compelling said flue gas to interact with a solid surface.
2. The process of Claim 1 wherein said solid surface is inside an enclosure.
3. The process of Claims 1 and 2 wherein said enclosure has an inlet means for admitting said flue gas into said enclosure.
4. The process of Claims 1 and 2 wherein said enclosure has an outlet means for allowing said flue gas to exit said enclosure.
5. The process of Claim 1 wherein said solid surface is cooled by a cooling means to keep the temperature of said solid surface from exceeding the dew point temperature of said flue gas.
6. The process of Claim 1 wherein said solid surface is cleaned of condensate and collected particulates by a cleaning means.
7. The process of Claim 1 wherein said controlled mixture comprises: an amount of water which will not cause said flue gas to be supersaturated, and an amount of chemical reagent which is a function of the amount of sulfur compounds in said flue gas.
8. The process of Claim 1 wherein said controlled mixture is sprayed into said flue gas by an injector means.
9. The process of Claims 1 and 8 wherein said controlled mixture is delivered to said injector means by an injection pump means.